

REMARKS

Claims 7, 9-11, 31, 35 and 38 are now pending in this application. Claims 1-5, 13, 14, 16-30, 32-34, 36 and 37 are currently withdrawn as being nonelected in response to the previous restriction requirement. Reconsideration of the application is earnestly requested.

The Present Invention

Claim 7 has been amended to more clearly recite the invention. Figure 4 of the present application (and its corresponding description) illustrate a technique for retrieving a file from a database. Claim 7 recites a pair of identifiers for each file: a unique identifier used for locating the file, and a verification hash value used to verify the contents of the file. The unique identifier and the verification hash value are different and are associated together in a data structure (such as a table), thus providing an important advantage (such as ease of access to the identifiers and a determination that a file is present in a database). Prior art techniques have not used two different, unique identifiers to not only represent a file location (the unique identifier) but also to verify file contents (the verification hash value). As pointed out at page 3, lines 11-20, the invention decouples file content addressing from file content verification, thus achieving the advantages listed. The unique identifier-verification hash value pair is stored in a data structure for each file in a database.

Support for Claim Amendments

Applicant respectfully submits that all of the claim amendments are supported by the original claims, the specification or the drawings. The term “first hash value” has been replaced by the term “unique identifier” and is supported as follows. Original claim 7 recites a “unique identifier” that matches the first hash value. Original claims 19, 22, 24 and 26 recite a random number that is used to identify a location for the file in the database. Inherently, a random number is a unique identifier for a file because no two random numbers generated for different files will be the same. The specification at page 6, first paragraph; page 7, second paragraph; and page 20, line 19-page 21, line 10, also support use of the term “unique identifier.”

New claims 30-33 recite that the unique identifier is computed from a hash function, a random number generator or a pseudo random number generator. Use of a hash function is supported in the original claims 1, 7, 13 and 17. Use of a random number generator is supported in Figure 13, original claims 19, 22, 24 and 26, and in the specification at pages 20 and 21. New

claims 34-37 are supported at page 7, lines 12-22, et seq.

Claim 7 now recites that the “unique identifier is used to identify a unique location in the database.” The specification at page 6, first paragraph; the paragraph spanning pages 10 and 11; and page 22, first full paragraph, supports this phrase.

Claim 7 now recites that the “verification hash value is different from the unique identifier.” Original claims 6, 12 and 15 support different hash functions; original claims 19, 22, 24 and 26 support a random number (a unique identifier) that is different from the verification hash value. This limitation is also supported at page 3, lines 11-17; page 6, second paragraph; paragraph spanning pages 9 and 10; paragraph spanning pages 10 and 11; and page 22, first full paragraph.

Claim 7 now recites that the “verification hash value is used to verify the contents of the stored file.” This limitation is supported at page 3, lines 11-17; paragraph spanning pages 3 and 4; page 6, second paragraph; etc.

Applicant thus submits that all amendments are supported.

The Cited Art Distinguished

The Office action has rejected claim 7 under §103 as being unpatentable by *Shinoda et al.* (*Shinoda*) in view of *Shah et al.* (*Shah*). Although the Examiner’s arguments have been carefully considered, Applicant respectfully traverses this rejection as explained below.

Claim 7 requires (emphasis added):

retrieving a unique identifier-verification hash value pair from a data structure associated with said database by using said unique identifier, wherein said retrieved verification hash value has been previously derived from said stored file using a verification hash function, said retrieved verification hash value being different from said unique identifier;

Thus, the unique identifier for the stored file along with the verification hash value for the stored file are stored together, as a pair, in a data structure associated with the database. The advantage is that this data structure can then be used to quickly locate verification hash values based upon a received unique identifier, and that the data structure allows one to determine if a

file is present in the database by determining the presence of the unique identifier. The data structure is not part of the database although it is associated with the database. Figure 2 of the present application illustrates one example of such a data structure (in a table form) where the first column is a unique identifier for a file (in this case a unique hash value) and the second column is the verification hash value for the file. Such a data structure is also discussed beginning at page 9.

By contrast, *Shinoda* does not teach or suggest "retrieving a unique identifier-verification hash value pair from a data structure associated with said database by using said unique identifier." The Office action cites paragraph 101 but this paragraph simply states that the hash value is embedded in the Internet mark 908. There is no data structure that stores two different, unique identifiers for file. There is no pair of "unique identifier-verification hash value" that are stored together. There is only the single hash value for the file. One of skill in the art would not be motivated to consider using a separate data structure with such a pair of identifiers because *Shinoda* is not concerned with storing and retrieving files from a database; it is only concerned with the accuracy of a web site.

Further, *Shah* likewise does not teach or suggest "retrieving a unique identifier-verification hash value pair from a data structure associated with said database by using said unique identifier." The Office action cites paragraph 181 but this paragraph simply refers to a single unique identifier for file. There is no data structure that stores two different, unique identifiers for file. There is no pair of "unique identifier-verification hash value" that are stored together. There is only the single hash value for the file. Neither *Shinoda* nor *Shah* could be used to implement the present invention because there is no separate data structure that stores these pairs of identifiers for each file; therefore, there is no way to retrieve the file and verify its contents as per the invention of claim 7.

Claims 9, 10 and 31

Since the dependent claims depend from the independent claims, it is respectfully submitted that they are each patentable over the art of record for at least the same reasons as set forth above with respect to the independent claims. Further, each of the dependent claims require additional features that when considered in light of the claimed combination further distinguish the claimed invention from the art of record.

For example, claim 9 specifically requires that a request is received from a user that indicates the unique identifier. Once the file is located and verified, the file is then delivered to the user. Claim 10 requires that the stored file is retrieved by searching the data structure for the unique identifier. As previously explained, existence of the data structure allows one to search the data structure for the unique identifier in order to determine that the desired file is present in the database. Claim 31 requires that the unique identifier is an identifying hash value computed from the file using an identifying hash function, a random number generated using a random number generator, or a pseudo random number generated using a pseudo random number generator. None of the cited references disclose that the unique identifier is one of these values.

Reconsideration of this application and issuance of a Notice of Allowance at an early date are respectfully requested. If the Examiner believes a telephone conference would in any way expedite prosecution, please do not hesitate to telephone the undersigned at (612) 252-3330.

Respectfully submitted,
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